

A close-up photograph of a purple flower, likely a member of the Ranunculaceae family, showing the intricate, spiraling structure of the petals and several stamens with prominent anthers. The background is a soft, out-of-focus green.

KENT

BOTANY 2021

A small square logo with a white border. The background is a collage of various small flowers in white, purple, and red. The text "Kent Botanical Recording Group" is overlaid in a white, serif font.

Kent
Botanical
Recording
Group

Kent Botany 2021

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Compiled by Geoffrey Kitchener
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Front cover:

Silene nutans^R (Nottingham Catchfly), red-flowered form, at Dungeness. Photo 23 June 2021, © David Steere

Introduction

Kent Botany 2021 is the twelfth report in the Kent Botany series, reporting on current botanical developments in the county. This report is issued primarily as a web version, maintained on the Kent page of the BSBI website, <https://bsbi.org/kent>, and this should be regarded as the definitive version. Hard copy is published in substantially similar form within the Kent Field Club Bulletin.

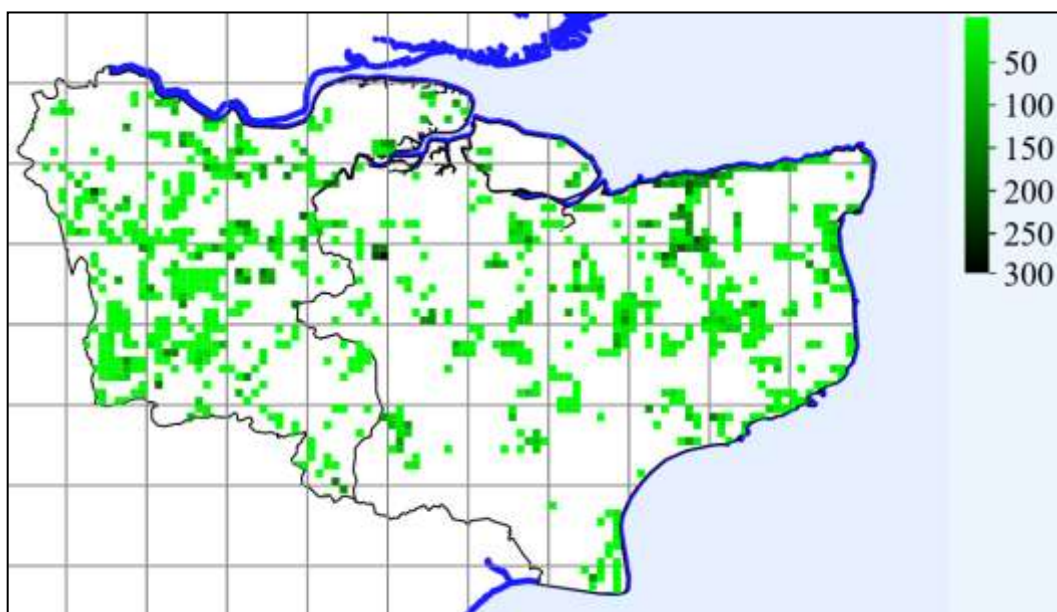
Highlights

- A population of c.22,500 plants of *Myosurus minimus* (Mousetail) has come to light near Hoo St. Werburgh, the first Kent sighting for over 45 years; the last dated West Kent record was in the 1870s.
- The population of *Lythrum hyssopifolia* (Grass-poly)^R discovered at Betteshanger in 2020 was found to have increased to c. 3,000 plants; the lustre of this highlight, however, was tarnished by the grant of planning permission in May 2021 which is expected to destroy the site.
- *Taraxacum parnassicum* (Parnassus Dandelion) was recorded in chalk grassland near Longfield, a native species new to Kent and with few English records.
- *Thladiantha dubia* Bunge (Manchu Tubergourd) was discovered naturalised at Lynsted, apparently only the second UK record.
- *Veronica cymbalaria* (Pale Speedwell), a south European species, otherwise with a UK presence virtually limited to a Cornish site, has been seen well established in a cemetery at Faversham.
- *Wolffia columbiana* (Columbian Water-meal) has been identified in several east Kent sites, this alien having only been recognised in 2021 as present in the UK; it is, however, only a recording 'highlight' in terms of novelty and interest, for it was worryingly seen in places where native *Wolffia arrhiza*^R (Rootless Duckweed) was previously recorded and may have supplanted or been mistaken for that species.

Botanical developments in Kent, 2021

Despite the continuance of the pandemic, the pattern of botanising seemed less affected than in 2020, when lockdowns had circumscribed local travel and group botanising was off the agenda. In 2021, botanical meetings resumed and Kent Botanical Recording Group (KBRG) held five from mid-July onwards, making nearly 1,000 records in the process. Meeting accounts were published in KBRG Newsletter 14 (2021) and lists of finds circulated to members.

The year's weather was unusually variable with a cold, wet start to the year and with both February and March starting cold and ending warm, a notably dry April, wet thereafter and a summer with periods of heavy rain, the latter in particular resulting in late rapid growth of annuals. Rodney Burton remarked on the effect at Eynsford: 'Large numbers of *Senecio vulgaris* [Groundsel] appeared from nowhere and grew to about 45 cm in a fortnight, lining village roads, fortunately just after the Best Kept Village judges had been round. Single plants of *Epilobium montanum* [Broad-leaved Willowherb] and *E. ciliatum* [American Willowherb] differed from the norm in growing up to about 11 cm and then producing a single terminal flower, i.e. behaving like annuals'. Joyce Pitt noted that 'in the Crockenhill area as well as elsewhere in the adjacent built-up areas in Bromley district' bare ground was 'colonised abundantly by small spring ephemerals and annuals. In spring *Erophila verna* (Common Whitlowgrass), *Arabidopsis thaliana* (Thale Cress), *Stellaria pallida* (Lesser Chickweed), *Plantago coronopus* (Buck's-horn Plantain), *Cerastium glomeratum* (Sticky Mouse-ear) and *Erodium cicutarium* (Common Stork's-bill) were widespread; *Saxifraga tridactylites* (Rue-leaved Saxifrage) was seen in some quantity in the Bickley area and at its usual stations on wall-tops and tombs in Orpington Churchyard (where it was seen at its most abundant for the last ten years or so), in pavement cracks at Swanley and St Mary Cray stations and on a Crockenhill verge.' The writer noted that with the summer rains *Tripleurospermum inodorum* (Scentless Mayweed) frequently grew to twice its normal height on arable margins. It is not easy to relate the effect of current weather on perennial growth, because of the potential for lag effects from the previous season.



Kent 2021 monad records input to BSBI database

2021 saw a total of 27,709 records added to the BSBI database, nearly all being for that year. About 95% were contributed by, or passed to, KBRG members. The 2021 county coverage was widespread, as may be seen from the accompanying distribution map, showing the 871 monads visited. The map also gives an impression of the extent of recording in each monad: while 205 monads had only one record each and appear within the lighter green squares, the darker squares indicate higher totals, the highest being 284 species recorded by Daphne Mills for TQ7958. (This was Detling, a varied monad with chalk grassland and woodland, arable, a main road and gardens, including unusual plants such as *Prunella x intermedia*, Hybrid Self-heal.) The number of people involved in recording was an impressive 101 and, while every contribution was welcome, it is worth noting that both Colin Osborne and David Steere each furnished more than 6,000 records. We shall miss David, who has now moved to Cornwall, and during 2013-21 has contributed well over 43,000 records as well as the benefits of his photographic skills and ability to share botany with a wide audience, via his blogspot, latterly at <https://barbus59.blogspot.com>, and Twitter (with over 4,500 followers). David's farewell to the county is worth giving in full, as a tribute to the health of Kent botanising and its encouragement, given and received:

I didn't start out in botany until 2013 and I found it very hard learning how to identify plants at first. The turning point for me was soon after, in 2014, when I attended several KBRG field trips. On these trips, members made me feel welcome and freely helped me identify our wildflowers (and other plants of course). I learned in one day in the field with the Group, more than any book could tell me in months of reading. As such, I took it all in like a sponge and became a useful botanical recorder just in time for the final five years recording of the BSBI 2020 atlas. Without the help and inspiration from the KBRG I doubt that this would have happened.

So, as I move to Cornwall, to explore a new botanical world, I would like to say thank you to the Group for your collective help. I would especially like to thank Geoffrey Kitchener, Sue Buckingham, Owen Leyshon, Stephen Lemon and Liam Rooney for putting up with my constant questions in my early days of taking up botany. My only regret is not taking up botany when I was a young man. Thank you all. I will remain a member but obviously won't be able to contribute many records from now though I will be returning to Kent to see relatives from time to time.

Recorders no longer with us after this year include the late Dr. Geoff Joyce, a physicist and mathematician whose records included the first for West Kent (vc16) of *Aesculus indica* (Indian Horse-chestnut); and the late Fred Booth M.B.E., former chief executive of KWT and president of KFC, 2001-03, who contributed records to KBRG in 2010-15.

From 2020 onwards, we moved away from the recording approach supporting general county coverage which backed up the BSBI's Atlas 2020 project, in order to focus on more updating records of county rare plant register (RPR) species, and a subset comprising three species designated as Kent Biodiversity Strategy plants. In 2021, 1,366 RPR records were reported to, or by, KBRG members. These included:

- 15 monad records for *Agrostis vinealis*^R (Brown Bent), reinforcing the conclusion in Kent Botany 2020 that this grass is not adequately represented in Philp (2010) and, indeed, is common enough not to warrant being in the RPR.
- An abundance of *Baldellia ranunculoides*^R (Lesser Water-plantain), *Hippuris vulgaris*^R (Mare's-tail) and *Potamogeton coloratus* (Fen Pondweed) resulting from habitat creation involved in the digging of scrapes and ditches for the RSPB at Worth Minnis.
- A count of 796 flowering spikes of *Campanula glomerata*^R (Clustered Bellflower) at Mill Hill, Ranscombe Farm reserve.
- A new site, at Leybourne Lakes, for *Epipactis phyllanthes* var. *degenera*^R (Green-flowered Helleborine).
- Many thousands of *Filago germanica*^R (= *F. vulgaris*, Common Cudweed) plants carpeting the west bank of the Medway under the M2 and HS1 bridges.
- The finding of *Hypericum maculatum*^R (Imperforate St John's-wort) at Tunbridge Wells, this species having only one other current Kent site, in contrast with the relatively similar hybrid *Hypericum x desetangsii* (Des Etang's St John's-wort).
- Two substantial West Kent sites for *Orchis anthropophora*^R (Man Orchid), one of 130 flowering spikes in an Otford garden, the other of 300 near Chalk church.
- A stand of 72 flowering spikes of *Verbascum lychnitis* (White Mullein) in and around railway land near Longfield, the largest number recorded in Kent for at least the last dozen years.

The RPR was updated online in February 2021, incorporating records for 2020. The RPR list of plants was reissued, incorporating four new species as a result of 2020 finds, and some name changes; a further species (*Myosurus minimus*, Mousetail) falls to be added for 2021. The drafting of RPR species accounts Parts S (Sa-Sera) and (Serr-Su) was completed, and also went online.

Our Kent Biodiversity Strategy plants are *Orchis purpurea*^R (Lady Orchid or Fair Maid of Kent), *Polygala amarella*^R (Dwarf or Kentish Milkwort) and *Carex vulpina*^R (True Fox-sedge). Reports of our second season of investigation are included in KBRG Newsletter 14 (2021). In summary:

- A total of 5,780 *Orchis purpurea* plants was recorded, of which 2,302 were flowering. Predation by rabbits and slugs affected some colonies and there was one wood with a large population where fallow deer had eaten virtually all plants before they could flower, perhaps because the dry April had limited the growth of grass for grazing. Heavy shade appeared deleterious for seed-set; lighter conditions appeared more beneficial for pollinators, and opening up to light (e.g. through clearance or the presence of dead ash in wood canopy) generally seemed to encourage the orchids, if not overwhelmed by resultant competitive vegetation.
- *Carex vulpina* in its Kentish Low Weald distribution shows a preference for seasonally waterlogged conditions and our post-2010 records, concentrated in the Eden and Medway floodplains of West Kent, suggest that either loss or inaccessibility of this habitat in East Kent may account for the limited re-finding of historic records there. Its absence from the Medway Valley below Yalding, where *Carex otrubae* (False Fox-sedge) replaces it, may be due to the latter's greater tolerance of brackish conditions, but its absence from the upper reaches of the Medway, above Penshurst, is harder to account for. The ability, through distribution of seed by flooding, to colonise new bare habitat or to re-occupy former habitat when it becomes suitable again, appears crucial for the species' continuance.
- *Polygala amarella* was in 2021 found at Magpie Bottom (two plants) and Godmersham (49 plants), but not at Purple Hill (where conservation works were carried out at the end of the season). The Godmersham total indicates a 75% reduction since 2019, but if the Kentish form of this species is primarily annual, then, concerning though this reduction is, year-to-year fluctuations may be expected. Introductions from stock grown at Kew under the encouragement of the Species Recovery Trust were made in two suitable areas

where the species was not previously known (so as to avoid any confusion with natural re-appearances on historic sites), viz. Fackenden Down, Shoreham and south of the original Queendown Warren KWT reserve.

A seedling derivative from the introductions at the latter site was observed by October.

It is intended to assemble these and previous reports into a special Kent Biodiversity Strategy plant area of the KBRG website.

Kent plants seldom make national news, but *Solanum lycopersicum* (Tomato) in Kent achieved fleeting national recognition, with reports in various news media, e.g. the Independent (Webb, 2021), which rather alarmingly referred to the fruits of *Solanum nigrum* (Black Nightshade) as black tomatoes, while making it clear that there was an abundance of true tomatoes fruiting along the strandline of Pegwell Bay. The suggestion was that this could be evidence of the discharge of sewage into rivers by water companies, a subject made topical by the passage of the Environment Act 2021. Much more significant is the floral component of the Swanscombe peninsula, under threat of development as a 'London Resort' theme park. This is an area visited by KBRG in 2015 when we recorded in a range of diverse habitats carrying various RPR species including *Pyrola rotundifolia* (Round-leaved Wintergreen). The site's value was recognised by Natural England designating it as an SSSI in March 2021, confirmed on 10 November, so that its environmental value should be recognised in future planning decisions. One potential decision would arise out of London Resort's application for a Development Consent Order for the theme park scheme as a Nationally Significant Infrastructure Project which bypasses the standard planning process. This application requires examination by an examining authority and this process has been repeatedly deferred while the site, pending any outcome, remains one which, 'Hosting an incredible assortment of grassland, scrub, wetlands, grazing marsh and saltmarsh habitat ...provides ideal conditions for a huge variety of wildlife' (Natural England).

Our 2021 records have resulted in the addition of six new taxa to the East Kent flora, and six to West Kent.

Corrections to Kent Botany 2020

Pilosella flagellaris subsp. *flagellaris* (Spreading Mouse-ear-hawkweed) was given in Kent Botany 2020 as present in two locations at Eynsford, illustrated by a photo purporting to be of a non-flowering patch on a residential drive. The recorder has since withdrawn the identification of the plant at that second location, the illustration being of *Pilosella aurantiaca* (Fox-and-cubs). This leaves the record of *Pilosella flagellaris* as relating to one site only, formerly by a drain cover behind the recorder's house, since transplanted to encourage flowering, which has not happened. There is a full account of the taxon in *BSBI News* (Burton, 2021).

Plant records: selection criteria and recorders

Kent Botany 2021 covers Kent plant records mostly made or reported in that year. 'Kent' for these purposes comprises botanical vice counties 15 (East Kent) and 16 (West Kent). The area is more extensive than the administrative county of Kent plus Medway Council unitary authority's area, reaching northwest into London as far as Deptford. The vice county boundaries may be viewed at: <https://www.cucaera.co.uk/grpprev/>.

The record selection criteria are flexible, but they focus on plants which are unusual in Kent, or where the plant's location, habitat or population characteristics are unusual. Preference is given to publication of new discoveries, particularly those which do not correspond with a tetrad recorded in Philp (2010). Taxa which are new to vice county 15 or 16 are given in **bold**. Records of known populations of RPR species will usually be carried through for publication in the draft register, and are not necessarily set out in these records. Nomenclature follows Stace (2019). All dates given in the records are for 2021, unless otherwise indicated.

Recorders, referees and other persons mentioned in reports

AG Alfred Gay	DM Daphne Mills	JJ Judith John	RC Ronnie Cox
AH Alan Heyes	DN David Newman	JL Jane Lawson	RJC Robert Carr
AJ Ade Jupp	DS David Steere	JS Judith Shorter	RM Richard Moyse
AJR Prof. John Richards	EG Liz Gomes	LM Lesley Mason	RMB Rodney Burton
AL Alex Lockton	EGP Eric Philp	LR Liam Rooney	RVL Richard Lansdown
AP Alex Prendergast	EJ Evan Jones	LS Lindsay Stronge	SB Sue Buckingham
AW Tony Witts	FJR Fred Rumsey	MJ Malcolm Jennings	SK Sarah Kitchener
CO Colin Osborne	FRG Bob Gomes	MJC Professor Mick Crawley	SL Stephen Lemon
DB Derek Butcher	GK Geoffrey Kitchener	MW Mike Wilcox	SP Sue Poyser
DC Danny Chesterman	IB Ishpi Blatchley	NT Neil Tew	TGCR Tim Rich
DG Doug Grant	JA Jan Armishaw	OL Owen Leyshon	
DJ David Johnson	JB Josh Bartel	PW Peter Wilberforce	

Thanks are due to all these who have contributed; and to Charmian Clay for comments on the report presentation.

Other abbreviations or notation

BM = Herbarium of the Natural History Museum	Plant records which are marked ^R represent plants on the 2020 draft Kent rare plant register list
BSBI = Botanical Society of Britain & Ireland (formerly Botanical Society of the British Isles)	RSPB = Royal Society for the Protection of Birds
KBRG = Kent Botanical Recording Group	SLBI = South London Botanical Institute
KFC = Kent Field Club	SSSI = Site of Special Scientific Interest
KWT = Kent Wildlife Trust	vc = vice county
LNHS = London Natural History Society	

Plant records across Kent (vice counties 15 & 16)

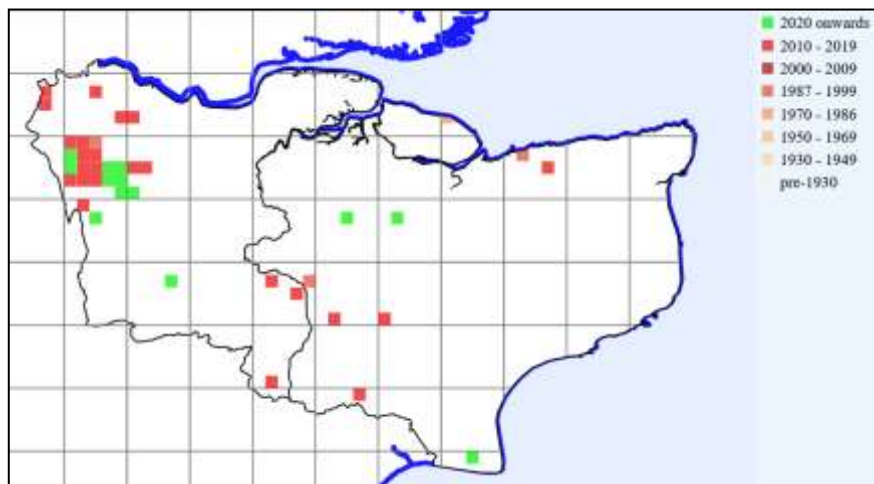


Atriplex micrantha (Twoscale Saltbush) continues to spread along motorway centre reservations, although our new 2021 sightings were somewhat scattered. It was seen by GK on 15 September in the centre of the M2 between Brenley Corner and the Faversham interchange, TR0259 (vc15). Its disappearance from the M20 in West Kent (vc16) during the replacement of the centre reservation by a concrete barrier has been followed by appearances further north west, where barrier works did not extend: a small patch on the M20 near Wrotham, TQ 6218 5918, was seen by GK on 22 August; and another at TQ 62795 59073 on 8 September. The contrasting colours of the upper and lower sides of its leaves are evident to drivers as they flash in the wake of vehicle slipstreams.

Laphangium (Gnaphalium) luteoalbum^R (Jersey Cudweed) is now widespread in Kent, following rapid increase, especially in urban contexts. Occasionally, however, it appears in quite unexpected habitats, as with DS's sighting at Blean Woods (vc15), TR1763, on 4 September of over 1,000 plants within KWT's Wild Boar and European Bison compounds, growing on bare, heavily poached soil. The relevant compounds were absent of any animals at the time of recording. A few solitary plants were also seen in adjoining compounds and by footpaths. Bare ground subject to heavy footfall is a characteristic of the species' urban habitat, but then generally with a microclimate generated by the heat island effect which is absent from the present location. Also unexpected was the same recorder's discovery of a patch of plants growing on an arable field edge at Cobham (vc16), TQ 6781 6838, on 6 September, and the west bank of the Medway under the M2 and HS1 bridges (TQ7267, 27 August). Our other non-urban records from previous years tend to be the drawn-down zones of lake margins, probably bird-dispersed in the main, although we do have a 2018 report (AG) from a Bronze Age barrow enclosure on chalk near Folkestone (vc15), TR 2083 3802. This increasing breadth of occurrences is acting to obscure any distinction between those of 'new native' origins (i.e. where not introduced by man) and those of anthropogenic origins; and the species is probably best removed from the county rare plant register.

Oenanthe pimpinelloides (Corky-fruited Water-dropwort) would have been a candidate for an East Kent rare plant register if we had had separate registers for each vice county. However, the extent of its current presence in north west Kent is such that it cannot be treated as rare across the overall county (see accompanying distribution map). Its East Kent scarcity renders exceptional a record by DS on 25 July of a single flowering and seeding plant at Dungeness, TR 0554 1817. The West Kent spread continues and in winter 2020-21 GK noted rosettes in a number of roadside locations in the Halstead/Knockholt area (TQ4557, TQ4762, TQ4861) where spread did not seem attributable to transfer on contract mowing machinery, which has appeared to be the vector in many public open spaces. Winter identification is easier than one might expect, as the rosettes flatten out over adjoining short grass and their fresh appearance suggests that some photosynthesis is taking place. A further indication of spread otherwise than on mowing machinery is given by AH's discovery on 17 June of three plants at Haysden Country Park, growing close to the A21 road viaduct, TQ 5619 4607. This is an area of contradictions, where a native flora including *Oenanthe silaifolia*^R (Narrow-leaved Water-dropwort) is present, but also plants such as *Cochlearia danica* (Danish Scurvygrass) and *Puccinellia distans* (Reflexed Saltmarsh-grass), both also recorded by AH, are present, having arrived as seeds spread by motor vehicles passing overhead, which may well be the cause of arrival of *O. pimpinelloides*.

***Oenanthe pimpinelloides*
Kent records (tetrads) to 2021,
from BSBI database**



Taraxacum spp. (Dandelions) in Kent

Dandelions featured in Kent Botany 2020 as a result of growing interest in this group of microspecies, and this interest continued through the 2021 season (the *Taraxacum* season is short, and mostly focussed on late April). A selection of finds is given below. All are members of section *Erythrosperma*, native species generally indicative of well-drained habitats, often with shallow soils.

Taraxacum dunense (Dune Dandelion). At least 50 plants were noted by DS (confirmed by AJR) on 17 April dotted along the earthen sea wall north of Deal and along the path at the base of its landward side; a sample grid-reference was TR 37270 54569. The species was seen as distinctive, with a dense rosette of tangled, very lacinate leaves and small capitula. It was last recorded in Kent, including this area, in the 1970s.



Taraxacum dunense, 17 April 2021.
Photos © David Steere

Taraxacum haworthianum (Haworth's Dandelion). This small dandelion, normally of coastal dune grassland, was found by DS (conf. AJR) on 18 April as widespread across Dartford Heath, present in both TQ5272 and TQ5273, and with an associated flora of gravelly ground, viz. *Cerastium semidecandrum* (Little Mouse-ear), *C. glomeratum* (Sticky Mouse-ear), *Erodium cicutarium* (Common Stork's-bill), *Erophila verna* (Common Whitlowgrass), *Moenchia erecta*^R (Upright Chickweed) and *Veronica arvensis* (Wall Speedwell). This is an unusual find away from the coast and a **first record for West Kent, vc16**, and the county as a whole.



Taraxacum haworthianum, 18 April 2021.
Photos © David Steere

Taraxacum lacistophyllum (Cut-leaved Dandelion). About 30 plants were found by DS (conf. AJR) on 23 April at Littlestone in very short turf within 10m of the highest tides, associated flora including *Plantago coronopus* (Buck's-horn Plantain) and *Cerastium glomeratum* (Sticky Mouse-ear), an area kept short by mowing although not mown for several weeks. He followed this up by finding more on 8 May at Dungeness, TR0816, and on 5 June at Littlestone

Warren, where it was frequent in TR 088 268 in short rabbit-grazed turf on sandy soil. It has not been recorded in Kent since the 1990s, and not in the south east of the county since the 1970s.



Taraxacum lacistophyllum, 23 April 2021. Photos © David Steere



***Taraxacum parnassicum* (Parnassus Dandelion).** This dandelion, characterised by small lemon-coloured capitula (and so with a passing resemblance to *Pilosella officinarum*, Mouse-ear-hawkweed), purple stripes on the ligules and some hairs on the scape, was found by DS on 11 April near Longfield, TQ 597 695. It was growing on south-facing chalk grassland, the associated flora including in the immediate vicinity *Cerastium arvense*^R (Field Mouse-ear), *Galium album* (Hedge Bedstraw), *Potentilla sterilis* (Barren Strawberry) and *Viola hirta* (Hairy Violet). This is a **first**

record for West Kent, vc16, and for the county as a whole.



***Taraxacum parnassicum*,**
11 April 2021. Photos ©
David Steere

Tragopogon x mirabilis (the cross between Salsify and Goat's-beard) has a flower head with yellow central ligules (from Goat's beard) and violet outer ones (from Salsify). Plants were recorded from both halves of the county: one plant by CO on 7 October by the Old Thanet Way, Studd Hill, TR1567; and two by AH on 11 June in grassland at Haysden Country Park, TQ 5628 4607 and TQ 5642 4608.

Plant records for East Kent (vice county 15)



***Allium siculum* subsp. *dioscoridis* (= *Nectaroscordum siculum* subsp. *bulgaricum*, Honey Garlic)** was recorded on 8 June by JA between Bossingham and Stelling Minnis, TR 1438 4983, as one plant 1.2m tall on a rough grassy roadside near woodland, c.¼ mile from housing, probably an escape. This find was followed on 11 June by DN's record of the subspecies in the Loose valley near Boughton Monchelsea, TQ76619 51839, for a few metres on the north side of a track. The English name, Honey Garlic, alludes to the surprisingly sweet smell of the flowers. This south European species has been recorded in Kent before, but not to subspecies level. Subsp. *dioscoridis* (the subspecies found in the wild from Italy westwards) has tepals greenish-cream tinged pink, rather than just greenish-red, as with subsp. *siculum* (found in Turkey and Bulgaria eastwards). Preceded by both these records was a sighting by DC on 30 May of a clump at Divan Wood, Eastling, TQ 960 549, probably a garden throw-out, and which he had assigned to the species. This may well have been subsp. *dioscoridis* likewise, but had deeper-coloured tepals than the other finds, albeit without quite attaining the reddishness which is attributed to subsp. *siculum*. Other features distinguishing between subspecies given by Stace (2019) do not help much: the length of fruiting pedicels requires plants to be at a later stage; the suggestion that subsp. *dioscoridis* usually has less acute tepals and forms a more broadly based bell-shaped perianth is contradicted by internet photos showing those characters associated with reddish tepals. The distinction between subspecies does not always apply: Stace (2019) refers to intermediates occurring in gardens; and Tison & de Foucault (2014) mention tepal colour often being varied even at the same site, notably in the area of Palermo from which the type of *A. siculum* was taken. Notwithstanding a level of ambiguity in relation to the Divan Wood plant, between the various 2021 finds we have a **first record for the subspecies in East Kent, vc15**, and for the county as a whole.



Allium siculum subsp. *dioscoridis*, 8 June 2021. Photo © Jan Armishaw

Ammi majus (Bullwort) was recorded by DC on 26 June, one plant in an arable field on an organic farm at Wye, TR 0624 4689, the second record for East Kent, vc15. It is known as a bird seed alien, but increased cultivation as an ornamental ('the best white filler plant you can grow' according to one seed source) provides opportunity for escape.

Anacamptis morio^R (Green-winged Orchid) was recorded by AJ on 25 May in rough grassland at Sevington, TR03 0397, a site potentially threatened by development, although the first record for hectad TR03.



Baldellia ranunculoides, 22 June 2021. Photo © Stephen Lemon

Baldellia ranunculoides^R (Lesser Waterplantain), although with a very restricted Kent distribution, is reasonably well-known in the Worth Minnis area, but was notable when seen by SB and SL on 22 June for the quantity involved, in RSPB bird scrapes west of Great Wood in TR3455 and TR3456, e.g. at TR3424 5602. These scrapes were dug in 2019-20 and, although it is possible for seed to have been brought in by birds, the speed and extent of colonisation would suggest that buried seed

had been brought to the surface. A similar cause is likely to have accounted for the quantity of associated *Potamogeton coloratus*^R (Fen Pondweed), also present in ditches dug at the same time. *Potamogeton pusillus*^R (Lesser Pondweed) was recorded in the large scrape as well.

Carex canescens^R (White Sedge) was enjoying mixed fortunes when encountered by a KBRG meeting at Orlestone Forest on 20 August. On the one hand, a new location was found, at TQ 9795 3584, albeit in the general area from which most of our recent Kent records come. On the other hand, a pool where 40 plants were recorded in 2011 on margins and islands now only held three; it would not be surprising if there were a degree of habitat change over ten years.

Carex otrubae (False Fox-sedge) in a rather unusual form was observed by AL on 19 July as frequent in TR0040, south of Ashford. Initially thought to be proliferous, instead it seems to be subject to the inflation of some of its utricles. This record is mentioned, not for its botanical significance, but to invite investigation as to whether it is more widespread in Kent and whether entomologists would wish to confirm this as anomalous growth caused by the gall midge *Dasineura inflata* (a suggestion from RVL, referring to Bruun *et al.*, 2014), which does not appear to be on the British List. The British Gall Society currently has no Cecidomyiidae expert to verify this. Fruits similarly galled by this midge species, MJ has pointed out, are illustrated at Ellis (2001-22).

***Carex otrubae*, 19 July 2021. Photo © Alex Lockton**



Charophytes, although not vascular plants, are covered by our recording activities, although our data are not as comprehensive as for vascular plant species. It is worth noting, however, that the newly formed bird scrapes mentioned under *Baldellia ranunculoides* above carried an impressive charophyte flora, also noted by SB and SL: *Chara hispida* var. *hispida*, *Chara vulgaris* var. *papillata* and *Tolypella nidifica* var. *glomerata*.

Chenopodium murale^R (Nettle-leaved Goosefoot) put in one of its very infrequent casual Kent appearances at Harty, Sheppey, TR0267, where recorded by DS on 8 August on a farmer's dumped spoil.

Cota tinctoria (*Anthemis tinctoria*, Yellow Chamomile) is an introduced species grown in gardens and also appearing in 'wildflower' seed mixes. Its dye-plant characteristics do not seem to have resulted in any local history of cultivation, in contrast with *Reseda luteola* (Weld), grown for its yellow dye in north east Kent in the 17th and 18th centuries. It is much less frequently seen escaped in Kent than *Glebionis segetum* (Corn Marigold) which is in some respects similar, and SB on 21 June found two *C. tinctoria* plants on a roadside verge near a roundabout east of Barham at TR 2179 4992.

Eleocharis uniglumis^R (Slender Spike-rush) was found in a new site by SB and SL on 22 June, the seventh monad in which it has been found since 2013. This was north of Great Wood, Worth Minnis, TR 34257 56224 at the margin of an RSPB scrape excavated in 2019-20 in a peaty field. *E. uniglumis* was growing in a mixed population with the more common *Eleocharis palustris* (Common Spike-rush) and was made easier to spot by the latter and other surrounding vegetation having recently been grazed down by cattle. The species was not listed by Rose (1950) for this area, although it was given for the fen meadows around Hacklinge, and the area was treated by him as fen-like, with the deepest peat and richest fen flora of the Lydden Valley, but distinguishable from the residual primitive fen of the Ham Brooks on the other, west, side of the main road which runs along a chalk ridge dividing the two valleys.

Elymus x obtusiusculus (the cross between Sea and Sand Couches) was noted by a KBRG meeting on 15 September at the shell-sand beach by Castle Coote, TR 0388 6475 (identified by GK, confirmed by MW). The hybrid was growing next to the parents, much taller and more vigorous than both, with intermediate characters and the inflorescence failing to disarticulate, in contrast with fragmenting Sand Couch.

Euphorbia maculata (Spotted Spurge), an American species naturalised in Europe and first seen in Kent in 2016, was recorded by CO at Herne Bay. On 22 July he saw it growing extensively on bare earth at Memorial Park garden, TR 174 678, where noted by AL in 2019; and on 8 September there was a large spreading plant on the garden edge of a pavement at Mickelburgh Hill, TR184678, accompanied by *Polycarpon tetraphyllum* (Four-leaved Allseed), which we have noted elsewhere as a possible indicator of a shared origin of introduction with nursery plants.

Falcaria vulgaris (Longleaf) was spotted by RC on 5 June (a 'Churches Count on Nature' morning for the assessment of biodiversity in churchyards), growing on the gravelled grave of Private J.L. Castle at St Peter-in-Thanel. A follow-up by SB on 29 June confirmed a spread of plants both on neighbouring graves and over c. 4 x 4 metres of adjoining rough grassland at TR 3791 6856. This is a totally unexpected species for planting at a grave and SB considers that it may possibly have been introduced via mowing machinery from the well-known population at Kingsgate golf course.

***Falcaria vulgaris*, 29 June 2021. Photo © Sue Buckingham**



Fraxinus excelsior f. *diversifolia* (One-leaved Ash) is a disconcerting tree, with all the hallmarks of Common Ash – the greenish-grey stems and black buds – but with single leaves replacing the usual pinnate ones. It is a form which occasionally, but rarely, arises in wild populations and on 25 September JB noted one such growing near the Maidstone Road bridge over the M2 near Bredhurst, TQ 79874 62707. It was subsequently set back by flailing, presumably part of highway maintenance, but would be worth preserving to grow to maturity.



***Fraxinus excelsior* f. *diversifolia*, 25 September 2021
Photo © Josh Bartel**

Gladiolus communis (Eastern Gladiolus) tends to be recorded in Kent, either as the species or as subsp. *byzantinus*, a couple of times a year, mostly near the coast where the climate may encourage flowering. Sometimes it may have evident origins as discarded with garden waste; at other times this seems impossible. Enigmatic were two discoveries on 5 June: one by RJC, of a plant in roadside grassland near Finberry, Ashford, TR0239, and the other by AJ, near Sevington, Ashford, TR 016 401, on a steep bank by a loop road of the A2070. There has been much movement of soil around Ashford in recent years which obscures patterns of origin (and this applies to native British species as well, evidenced by other finds of RJC).

Lactuca saligna^R (Least Lettuce) was counted at Elmley, TQ9269, on 5 August by GK, AW and LM, yielding a total of 1,700 plants. While this was an increase over the 2013 total of 1,028 it was

absent from part of its previous habitat, as this has been affected by Environment Agency works in 2015. A fuller account is given in KBRG newsletter 14 (2020).

Lathyrus hirsutus^R (Hairy Vetchling), which was promoted to the county rare plant register in 2020 following re-assessment of its status as behaving as though native (and indeed, possibly native anyway), was found by DC on 26 August at the southern end of Leysdown Coastal Park, Sheppey, TR 042 697, where there were several large clumps. This is a first record for hectad TR06.

Lathyrus odoratus (Sweet Pea) is occasionally encountered as the odd casual, but somewhat better status was noted by CO on 25 August at Reculver, TR2369, where there were quite extensive scattered plants between the seawall and oyster farm; it was present in the previous year as well.

Lythrum hyssopifolia (Grass-poly)^R at Betteshanger Community Park, TR 33770 53089, reported here for the first time in Kent Botany 2020, continued to flourish and on 10 June (SB) covered an increased area, c. 43m², with a population estimated at 3,000 plants. This may be the last that we shall see of nationally Endangered Grass-poly as a wild plant in Kent, as planning permission was granted to Quinn Estates in May for a development incompatible with its continuance, in spite of it being a Schedule 8 plant protected from intentional destruction. Translocation is proposed,

but there appears to be no evidence that this could be effective; the plant 'chose' its own present habitat at Betteshanger and its requirements are exacting.

**Young *Lythrum hyssopifolia* plants, 11 May 2021.
Photo © Sue Buckingham**

Orobanche crenata (Bean Broomrape) is becoming increasingly established in south east England; our Kent records have mostly been in the Harvel-Snodland area with one sighting just on the East Kent side of the Medway valley. SB, however, on 8 June found 14 plants flowering on a roundabout off the A2 near Barham, TR 2171 4998, hosted by three large and very vigorous patches of *Trifolium repens* (White Clover). It is supposed to have a very wide host range, although normally present on legume crops or their residues.



Orobanche minor subsp. *maritima* (Carrot Broomrape) has now been recorded at the eastern end of Folkestone Warren near Abbot's Cliff, on the undercliff just above the sea wall. AG, on information from DB, on 10 June counted 29 spikes at TR 26543 38444, generally all close to *Daucus carota* (Carrot); and on 19 June further plants were found by AG and SB scattered eastwards for some 250m as far as TR 26809 38483. The distribution of this plant is not adequately reflected by older records, since the name was applied to broomrapes parasitic on *Eryngium maritimum* (Sea-holly) which are now known as *O. minor* subsp. *minor* var. *pseudoamythystea*. The host plant of *O. minor* subsp. *maritima* is, according to Thorogood & Rumsey (2021) almost always *Daucus carota* subsp. *gummifer* (Sea Carrot). They also suggest that some gene flow may occur between *Orobanche* species, and a specimen from the Folkestone site was put to FJR, as having atypical characters which might suggest introgression from *Orobanche picridis* (Oxtongue Broomrape). No confirmation was possible, however, in the absence of DNA analysis, and there may be other explanations for atypicality: 'there are still unanswered questions over the influence of the host on the parasite morphology' (FJR).

***Orobanche minor* subsp. *maritima*, 10 June 2021. Photo © Alfred Gay**

Oxalis tetraphylla (Four-leaved Pink-sorrel) is one of the garden *Oxalis* species which make their way by bulblets formed at the end of rhizomes, in spite of which it gets out of gardens less frequently than many others; so that CO's record on 26 July of this species escaped or dumped at a back alley from an adjacent garden at Sturry, TR1860, appears to be only the second for East Kent.

Pilosella officinarum (Mouse-ear-hawkweed) is very variable - Sell & Murrell (2006) list seven subspecies – and the extent of this variation raised hopes on the part of AG and SB that plants reviewed by them at the undercliff of Folkestone Warren, TR 26509 38462 and TR 26543 38444, on 19 June might after all have been the elusive *Pilosella peleiteriana*^R (Shaggy Mouse-ear-hawkweed), for which there are 19th century records not replicated since. The plants were appropriately shaggy, with capitula 35mm in diameter (beyond the normal range of *P. officinarum*) and some with what appeared to be short, thick stolons ending in rosettes. The position regarding the short stolons required for *P. peleiteriana* was not straightforward to ascertain, as the erosion of any thin soil on the chalk where the plants were growing would have left rhizomes exposed as though they were stolons. TGCR kindly refereed specimens, concluding that there seemed to be two *P. officinarum* taxa present, but not *P. peleiteriana*, which would have had a more clumped jizz.

Rumex x fallacinus (the cross between Curled and Golden Docks) and *Rumex x knafii* (the cross between Clustered and Golden Docks) were two of a range of unusual Dock hybrids encountered by GK, AW and LM on 5 August by The Dray, a brackish waterbody which once separated the Isle of Elmley from the main Isle of Sheppey, TQ9269. The *R. maritimus*^R (Golden Dock) parent was abundant along the water margin where there are seasonal changes in level.

Rumex x muretii (the cross between Clustered and Fiddle Docks) and *Rumex x pseudopulcher* (the cross between Curled and Fiddle Docks) were seen on the same occasion as *R. x fallacinus* (above). Whilst also found alongside The Dray, these were on somewhat higher ground, reflecting the habitat preferences of *R. pulcher* (Fiddle Dock) for dry substrates.

Rumex x wirtgenii (the cross between Clustered and Marsh Docks) was another Dock hybrid recorded on 5 August on the margins of The Dray, Sheppey, TQ9269, the parent *R. palustris* (Marsh Dock) being a plant of changing water levels, especially where there has been some disturbance through stock grazing. While it has been recorded rarely in the estuarial grazing marshes of north west Kent, this appears to be a **first record for vc15, East Kent**.

Scandix pecten-veneris^R (Shepherd's-needle) was seen on 5 May by OL at Church Lane, Littlestone, TR 07175 24105, where eight plants were present in an area which is popular with scrambling motorbikes. Disturbance may have helped it, and this was aided by OL in mid/late summer, as a result of which many seedlings germinated by the end of the year. Origin is not apparent: the location is far from traditional areas for the species, and although it has been found at Dungeness in 2000, this is a first record for hectad TR02.

Serapias vomeracea (Long-lipped Tongue-orchid), reported in Kent Botany 2020 as new to Britain in the wild, has continued to survive and (DM, 5 June) put up two spikes, both of which have flowered. Notwithstanding, the absence of published location details, knowledge has reached the wider orchidophile community and the habitat has undergone trampling and disturbance by some of those seeking photographs.



Serratula tinctoria, 24 August 2021.
Photo © Sue Buckingham

Serratula tinctoria^R (Saw-wort) has proved unexpectedly elusive, a scattering of old records having translated into only one recent site, near Kilndown; but SB on 24 August succeeded in confirming the survival of the species also at Chittenden Wood, Hemsted Forest, where there were plants flowering at TQ 81803 36635 and TQ 81801 36647. It seems that a favoured habitat is near oaks, but with some opening up of light at least on one side; in this case the plants were in the proximity of oak trees exposed by the felling of neighbouring conifers a few years before.

Setaria verticillata (Rough Bristle-grass), an alien grass sometimes arriving with birdseed and one of the few *Setaria* species whose spikelet bristles have backwardly-directed barbs, was found by CO on 8 September, a few plants on the south pavement of Osborne Gardens, Beltinge, TR 199 679, this being a second East Kent vc15 record.

Silene noctiflora^R (Night-flowering Catchfly), which was reduced to one recorded site in Philp (2010), has since proved to be more widespread, but still very much under threat as a disappearing arable weed, not that it was ever common in Kent. SB added a further record on 24 June, with the sighting of a single plant near Nonington, TR 25895 52630, at the edge of a bean crop and within an area sown for birdseed. Such singletons may indicate a residual seed-bank with weed growth encouraged by arresting herbicide treatment in favour of the birdseed sowing.

Solanum rostratum, 26 September 2021. Photo © Tony Witts



Solanum rostratum (Buffalo-bur), a North American species, is characterised by its exceedingly sharp-spined calyces or burs, and is reported by AW as present at Uplees farm, TQ 9976 6450, on 26 September. There was a single plant near a chicken run, growing with *Urtica urens* (Small Nettle) but little else. In the absence of any bison nearer than the KWT's Blean introductions, the origin of the plant may perhaps be as a grain casual; it appeared only a few metres away from where *Chenopodium foliosum* (Leafy Goosefoot) was recorded in 2018, so there may be a common explanation for both.



Thladiantha dubia, 2 July 2021. Photos © Danny Chesterman

***Thladiantha dubia* Bunge (Manchu Tubergourd)** is a hardy perennial cucurbit from eastern Russia, China and Korea which is the subject of conflicting assessments as regards the edibility of its fruits and tubers, the latter having some reputation for medicinal qualities as well. More generally, however, it appears to be grown here as an ornamental climber, but it is not common: the Royal Horticultural Society's listings contain only five UK suppliers, including Great Dixter Nursery. Its limited use is reflected in its near-absence of record as an escape in the British Isles; the only other find appears to have been at Newhaven, East Sussex, in 2018 (Berry, 2019). However, on 2 July, DC found it growing prolifically in a wood at Lynsted, TQ 94568 59544, around a former rubbish/bonfire heap, a **first record for vc15, East Kent**, and for the county as a whole. Presumably at some time there had been an attempt to dispose of tubers, which has since resulted in Manchu Tubergourd becoming established here. The species is dioecious, and it appears that what was found at Lynsted was a male plant, so fruits were not to be expected. It does, however, spread by tubers forming in chains along its underground shoots, each of those tubers forming new shoots in spring, which then give rise to chains of fresh tubers so that the plant quickly multiplies vegetatively and may cover a large area in a few years. This provides potential for it to become an invasive species, as has been recorded in the Republic of Bashkortosan, Russia (Kuluev *et al.*, 2019) where a few small pieces of tuber scattered from soil adhering to a tractor plough were capable of dominating an entire vegetable garden in a few years. However, such spread related to soil disturbance requires repetition of that disturbance in order to maximise the effect; and it seems that most escaped occurrences in Europe are of male plants dispersible by tubers, introduced through habitat disturbance and generally regarded as a casual alien species but with little or no trend to further invasion. This status assessment was made by Alegro *et al.* (2010), while contrasting the situation in Japan where it was (wrongly) alleged to have been assigned as an invasive alien species (the error arose from having assumed that a list of alien species known to have been found in the wild in Japan was a list of designated invasive taxa – only a small proportion of those listed subsequently received any designation, *vide* MOE (2018), and *Thladiantha dubia* was not one of them). However, whilst invasiveness in terms of spreading to multiple locations does not seem to be a characteristic of its presence in Europe, it is capable of substantial spread at an introduced location, the Croatian site discussed by Alegro *et al.* (2010) covering c.100m². At Lynsted, it covered c.10 m². The Newhaven plant is quite fully described by Berry (2019); and from the Lynsted plant in terms of immediately noticeable characteristics one might remark on its deeply cordate leaves (*T. cordigera* also has somewhat similarly shaped leaves but lacks the markedly reflexed, strap-shaped calyx segments of *T. dubia*).



Trifolium incarnatum subsp. *incarnatum*, 23 May 2021. Photo © Sue Poyser

Trifolium incarnatum subsp. *incarnatum* (Crimson Clover) has various incarnations as a crop (for nitrogen-fixing or fodder) and as a garden 'wildflower'. Plants were encountered on 23 May by SP and DG at a Burham roadside, TQ7162, and considered possibly to be progeny of a sowing of this annual species when the road was built c.2015.

Tulipa saxatilis, 30 April 2021. Photo © Danny Chesterman

Tulipa saxatilis (Cretan Tulip) has a few British records, particularly for Tresco where its stoloniferous growth has enabled it to become naturalised at least since 1976. Its escape in Kent was noted by DC and LR on 30 April at the tipped site near Oare which has been such a prolific source of aliens. There were five plants in flower on a rubble heap at TR 00883 64135, this being **the first record for vc15, East Kent**, and for the county as a whole.



Veronica cymbalaria (Pale Speedwell) is a southern Europe winter annual and the only British records appear to be in West Cornwall (1985-2011, at least) and an impersistent occurrence in Lanarkshire. It has, however, now become established at Faversham cemetery, TR 02420 60852, where discovered by FRG & EG on 5 February as a white-flowered speedwell of somewhat unusual appearance and prolific flowering, in spite of the time of year. Identification was initially achieved by EG through iNaturalist's seek app (N.B. this was assessed by Jones (2020) as the plant ID app with the lowest error rate out of those tested); FRG arrived at a similar conclusion via Stace (2010); and confirmation was given by LR and GK. The speedwell was initially noted on two graves next to the main drive but (per LR) it is widespread in several patches, including one of 2 x 5m. There is evidence of spread into northern Europe (the Netherlands and Belgium) linked to the unintentional carriage of weeds with the importation of Mediterranean container plants (Hoste, I. *et al.*, 2016). This last-mentioned source describes the 2012 finding of *V. cymbalaria* in a tub with an olive tree from a seller of Mediterranean tub plants in West Flanders, and reminds that an important link which promotes the spread of exotics is the sale of flower arrangements and pot plants that find their way to cemeteries. *V. cymbalaria* resembles *Veronica hederifolia* (Ivy-leaved Speedwell), especially in a vegetative state (although the leaves tend to be more lobed), but is distinguishable by its white flowers (not pale blue); its obovate, obtuse sepals (not pointed with a cordate base); and its hairy capsules (not glabrous). Flowering in the Mediterranean takes place from December; hence the February flowering observed at Faversham, which precedes the start of *Veronica hederifolia* flowering in March. This is **a first record for East Kent, vc15**, and for the county as

a whole.



Veronica cymbalaria,

5 February 2021.
 Photos © Bob Gomes

Viola canina^R (Heath Dog-violet) was found in quantity by AJ on 26 May in a small old meadow near Mersham, TR 0576 3874, apparently neutral on Atherfield or Weald Clay (although there were indications of calcareous drainage from ragstone of the Hythe Formation in the vicinity); hybrids may also have been present but require confirmation. We have very few East Kent records and this is the first for TR03.

Wolffia columbiana (Columbian Water-meal) is an American species of *Wolffia*, an aquatic genus of the smallest flowering plants in the world, and was unrecognised in the British Isles until 2021. It was first confirmed as present in Europe in 2013 (Schmitz *et al.*, 2014), when populations were found in Germany in a ditch with various floating species of Lemnaceae (Duckweed) and in the Netherlands, growing with *Hydrocharis morsus-ranae* (Frogbit). These populations were hypothesised as having arrived via aquarist trade, although *W. columbiana* can be spread through ingestion by birds (cf. Silva *et al.*, 2018) and it is likely that this or transport on waterfowl feet has been taking place subsequently, as the American species has now been found in Belgium (Hendrickz & Verloove, 2019), as well as more widely in Germany and the Netherlands, so that FLORON (2021) shows presence at 293 mapped squares of 5 x 5km in the Netherlands. Occurrence in Italy in 2016 was believed to have derived from a neighbouring fish farm; importation of fish cultures may carry *Wolffia* as contamination (Ardenghi *et al.*, 2017). The potential for crossing the Channel was flagged by Ken Adams (Adams, 2019), who wrote that ‘The possibility therefore arises that some of the recent Kent occurrences [of our native *W. arrhiza*^R (Rootless Duckweed)] may also be *W. columbiana* – and if not will be soon’. This comment was prescient, as the exotic species was identified in 2021 as present in both Sussex and Kent.



***Wolffia columbiana*, from the Dowells, 16 October 2021. Photo © Sue Buckingham**

In autumn 2021 RVL and EJ found six populations widely distributed in the Pevensey Levels (East Sussex), RVL following this up by finds in the Gwent Levels. It transpired that there was good photographic evidence of the species having been present in Sussex in earlier years. The Sussex discoveries prompted a review of some Kentish sites where *W. arrhiza*^R had been recorded, in case *W. columbiana* was present, either as having been mis-recorded earlier or as having supplanted the native species. The first site investigated was a fishing lake by the Stour below Plucks Gutter, TR 276 631, where in July 2019 GK had recorded *W. arrhiza*^R as present in abundance, with *Spirodela polyrhiza* (Greater Duckweed). AL gathered material here on 14 October which was confirmed by RVL as *W. columbiana*. SB visited a number of East Kent sites on 16 October and *W. columbiana* was similarly confirmed from all of them, with a mixed population including *W. arrhiza*^R at one (a full assessment for the presence of both species at all sites was not undertaken). Details of her sites are given in the accompanying table.

Grid reference	location	Presence of <i>W. columbiana</i>
TQ 97843 31262	ditch on the Dowells sheep pasture nr Kenardington	yes, also with <i>W. arrhiza</i> ^R
TQ 97924 31284	ditch on the Dowells sheep pasture nr Kenardington	yes
TQ 92118 30103	roadside ditch near Reading Street (recently cut and cleared, so only very little <i>Wolffia</i> present)	yes
TR 01059 28444	roadside pond near Brenzett Corner	yes
TR 04328 31885	ditch in arable, Wills Lane, near	yes

	Newchurch		
TR 07638 22856	ditch at edge of arable, Greatstone	yes	

The presence of both *Wolffia* species together may be of some comfort if they are able to co-exist, but it is possible that the observation of both represented a situation where the native species was in the course of being supplanted. The first Kentish record of *W. arrhiza*^R is given in Hanbury & Marshall (1899) as made by George Gulliver in 1866, although the publication cited for this does not appear to contain such a record; nevertheless Hanbury & Marshall also quoted from a letter by Gulliver confirming that he had found it plentifully in Kentish places which are likely to have been along the Stour valley. We now think of the species in Kent as primarily one of Romney Marsh, and in that region it was first noted by Hanbury, near Lydd, before 1899. There are many East Kent records since, and Francis Rose summarised it in his manuscript *Flora of Kent* as a native plant of 'Ponds and ditches: rare, but locally abundant in a few places'.



***Wolffia columbiana*, habitat, the Dowells, 16 October 2021. Photo © Sue Buckingham**

Now we shall be obliged to reassess its status completely. There should be no doubt about the long-standing native occurrence of *W. arrhiza*^R (long-standing at least in terms of the relatively late date by which it became recognised as part of the



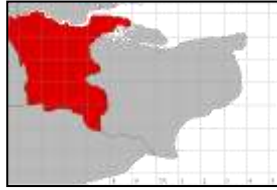
British flora), and it may be assumed from Continental evidence that the spread of its congener *W. columbiana* is of relatively recent occurrence. But how far the native species may have been ousted by the American one, and how far they may be able to co-exist, will require further investigation. Their ecological amplitude appears very similar, although Landolt (1994) considers *W. columbiana* capable of withstanding lower cold temperatures (-12°C for the lowest mean temperature of the coolest three months, as compared with -8°C for *W. arrhiza*^R).

***Wolffia columbiana*, habitat, Brenzett, 16 October 2021. Photo © Sue Buckingham**

An assessment of current *Wolffia* status is not straightforward, as the *Wolffia* species are only about a millimetre across and are not easily distinguished, once one has discounted the presence of small *Lemna* (Duckweed) species, normally by rubbing together between finger and thumb to test for the grittiness of *Wolffia*. *W. columbiana* appears paler than *W. arrhiza*^R when a frond is viewed against the light, with the appearance of a wide translucent border, rather than the darker, more uniformly opaque frond of *W. arrhiza*^R. A comparison of their characters, as also those of other *Wolffia* species including *W. globosa* (Asian Watermeal) - which also now has been recorded in Britain - is given in Lansdown *et al* (2022).

The Kent records given above are the **first records for East Kent, vc15**, although there can be little doubt that we have encountered *W. columbiana* earlier, unawares.

Plant records for West Kent (vice county 16)



Bupleurum tenuissimum^R (Slender Hare's-ear) is well-recorded in Kent – a quarter of the British monads for which it has been recorded since 2010 are Kentish – and almost all records relate to grassland habitat on or just inland of sea or estuarial defence walls. Such records have been seen before at TQ7075 (Higham), but on 7 September GK noted here an extensive colony which was well (45-65m) seaward of the defences, around a low promontory of London Clay just out of range of normal tides but likely to be affected by the highest, TQ 70205 75308. It may be that this is a relic population from the Higham saltings which have largely been lost to the Thames since the early 20th century.

Carex acuta (Slender Tufted-sedge) is one of a number of sedges whose distribution was inadequately represented by Philp (2010) but which is now much better known, thanks to SL. This knowledge was extended by his discovery of a new monad for this species on 10 September near Hever Castle, TQ 4871 4565, in a pond set back from the north-eastern corner of the lake, which is an original field pond, pre-dating the lake construction in 1904-06.

Carex comans (New Zealand Hair-sedge) is cultivated for its compact, somewhat swirling habit and leaf colour, bronze or silvery-green according to whichever of the usual cultivars is grown. It was recorded on 3 October by a joint SLBI / LNHS meeting as a few small tufts on a path, self-sown from planted ones nearby, at One Tree Hill Allotments, Honor Oak, TQ 356 742. This appears to be a **first record for West Kent, vc16**, although the status in such a location is marginal.

Carum carvi (Caraway) has for its only 'modern' records the casual occurrences given in Philp (1982), of which the most persistent and numerous were in the Gravesend area. A surprise was DS's find on 9 September of several plants by the M26 fence next to a public footpath along an arable field edge south of Wrotham by the M26 at TQ 6074 5847. The plants did not seem to have any relationship with the cropping, nor is the location near any buildings, so their origin is enigmatic. Identification, as DS points out, is straightforward, not least in that the fruits taste reminiscent of takeaway curry.



Carum carvi, 9 September 2021. Photo © David Steere



Chenopodium giganteum (Tree Spinach), a tall annual with distinctive purple-flushed foliage, has been known as a bird seed introduction, but occurrences now may well be escapes from garden cultivation, whether grown for edible seeds or its ornamental appearance. Kent records are few, but there were two this year: the first by DM on 20 June, when she found several plants at Holborough, TQ 70450 62657, on bare ground by the pavement in proximity of recent building works. The second find was by GK on 19 September, a young plant in a gutter at the junction of Christchurch Avenue and Victoria Road, Erith, TQ 51192 77887.

Chenopodium giganteum, 20 June 2021. Photo © Daphne Mills

Chenopodium vulvaria (Stinking Goosefoot)^R has a scattering of records in north Kent, to which two were added in hectad TQ77 at the west end of the Hoo peninsula. The first was on 2 August, when DM and JS found several trackside plants near Cliffe Pools, TQ 7214 7580, away from the usual populations in TQ7176. Then on 24 August, GK and SK came across a plant c. 50cm in diameter in the pavement of Church Street, Hoo St. Werburgh, with a smaller plant alongside. A normally reliable confirmation of identity is afforded by its fishy smell, from trimethylamine emitted by

glands on the plant's surface; this is not straightforward to ascertain in the centre of Hoo St. Werburgh, which routinely smells of fish and chips.

Cyrtomium fortunei (Fortune's Holly-fern) was spotted by SL on 28 May, a single plant of this alien species amongst native ferns on the banks of a deep shady ditch by the flooded gravel pits south of East Lock of the River Medway, TQ 6432 4697. Presumably a stray spore accounted for this, but the nearest gardens are 1km away at Barnes Street to the north, with Five Oak Green 1.5km to the south. As an apogamous species, it is capable of reproducing via unreduced spores which proceed to gametophyte and sporophyte stages without fertilisation, which can make for faster and more ready development, and may facilitate establishment from a wind-borne spore; at any rate, the writer's sowings of *Cyrtomium* spp. spores generally seem to reach maturity quicker than ferns in general.

Descurainia sophia^R (Flixweed) is, except for the Sandwich area, generally casual in its occurrences and a sighting by GK on 25 May of a single plant, 1m high, on sand at Sevenoaks Quarry, Greatness, TQ 5356 5718, appeared to be of a similar nature. However, the species was known in 1968-71 at the Vestry estate to the east, where the geology is similar, and so its status may not be wholly casual.

***Dipsacus laciniatus* (Cut-leaved Teasel)** differs from our Wild Teasel *Dipsacus fullonum* in its lobed leaves and greater height. On 14 August GK discovered a colony c.100m long on waste ground at the former Oast Park golf course, Snodland, closed from 2017. The plants were at TQ 6922 6026 and to east and west of this point, in rough vegetation on and around an embankment with some *D. fullonum* present at the fringes although no hybrids were noted. This is a **first record for vc16, West Kent**, and for the county as a whole.

***Dipsacus laciniatus*, 14 August 2021.
Photo © Geoffrey Kitchener**



Dracunculus vulgaris (Dragon Arum) is a Mediterranean aroid which occasionally escapes from gardens, and is readily identifiable from its mottled leaf-stalks, as was the case with a plant found by JJ and IB on 25 June at Norman Park, c. TQ 411 674.

***Dracunculus vulgaris*, 25 June 2021. Photo © Ishpi Blatchley**



Epipactis phyllanthes var. *degenera*^R (Green-flowered Helleborine) has become increasingly rare in Kent with, it is understood, the loss of nearly all the Craylands Gorge plants by having been buried (the site has for some years been fenced off from access, and major development works have been taking place in the neighbourhood). However, a new site, at Leybourne Lakes, TQ 696 601, was found by DC on 10 August, when one plant was seen precariously close to a public footpath. A visit by DM on 22 August resulted in discovery of a second plant twelve paces away. The habitat, low ground close to water, in the presence of *Salix* spp. (Willows) has similarities to the Cray Meadows site from which the species has not been reported since 2011.

Galanthus woronowii (Green Snowdrop), named after the Russian botanist Woronow, or Voronov (depending on transliteration preferences), is one of the less commonly cultivated snowdrops, and hence less commonly to be found out of gardens as well. A clump was found by GK and SK on 1 March by a rural lane near Four Elms, TQ 4728 4812, near a pond, with no evidence of planting in vicinity; this is the second West Kent record.

Genista monspessulana (Montpellier Broom) is indeed a plant from Montpellier, where Tournefort studied (who was the first to apply its specific epithet, subsequently adopted by Linnaeus), although sometimes experienced as being

invasive outside its native Mediterranean region. In spite of that tendency, it has no recent West Kent records, but on 25 May GK noted 17 plants of varying sizes which had seeded onto a gravelly footpath outside some abandoned quarry cottages where presumably originally planted, at Sevenoaks Quarry, Greatness, TQ 5361 5737.

Himantoglossum hircinum^R (Lizard Orchid) was reported in Kent Botany 2019 as a single flowering spike discovered by DS in chalk grassland bordering the HS1 railway north west of Longfield, TQ5969. This plant continued to flower in 2021, but DS now reports its development, as at 11 July, into a colony of six, with four flowering spikes under *Prunus avium* (Wild Cherry) at the top of site and a



further plant found by LS in an authorised investigation of nearby railway land on 30 June. Within 1km south-eastwards, a single plant was reported by NT on a roadbank at Hartley Road / Ash Road, Longfield, TQ6068, as present in June, but this was subsequently cut down by Kent County Council; no corresponding rosette could be traced (DS) in December. There seems to have been a scatter of new Kentish sites for this species in recent years, some of which have built up into colonies.

Hydrangea paniculata, 9 August 2021. Photo © Sarah Kitchener

***Hydrangea paniculata* Siebold (Panicked Hydrangea)** is the tallest of the non-climbing cultivated hydrangeas, and was seen by GK and SK on 9 August as a cultivated plant in garden grounds well overtopping a wall alongside Main Road, Knockholt, TQ 46755 58849, outside and below which a number of seedlings had developed in roadside pavement cracks. Their habitat is unlikely to afford them any permanence. The only other UK records in the BSBI database appear to be cultivated plants in gardens. This is a **first record for vc16, West Kent**, and for the county as a whole.

Hypericum hircinum (Stinking Tutsan), readily identifiable by the scent of all parts, was seen by GK and SK on 2 June: several plants by a footpath through a long-abandoned orchard, north east of Pembury, TQ 632 414. This appears to be the second vc16 record, discounting some probable garden records.



Hypericum maculatum,
26 June 2021.
Photo © Daphne Mills



Hypericum maculatum,
22 June 2021.
Photo © Stephen Lemon

Hypericum maculatum^R (Imperforate St John's-wort) was at one stage considered probably extinct in the county, although with genes still represented by the fertile hybrid with *Hypericum perforatum* (Perforate St John's-wort), namely *Hypericum x desetangsii*. A new site was, however, discovered by SL on 12 June at Tunbridge Wells

Common, by the crossroads of Major York's Road, Fir Tree Road and Hungershall Park, TQ 57669 38942, where a small clonal colony was found in an area of herb-rich turf. At that time it was non-flowering, but DM subsequently visited in order to enable the flowering characteristics to be assessed. The plants had the requisite strongly four-lined stems, lack of transparent leaf glands, occasional dark streaks to the petals, and generally wide sepals, some with a denticulate-eroded tip. A degree of variation of the sepals was probably compatible with that applicable to *H. maculatum* and at most might indicate slight introgression from *H. perforatum*, rather than tipping the balance of identification towards *Hypericum x desetangii*, which can cover the spectrum of variation between its parent species. By way of comparison, SL on 10 September found a large population of the hybrid at the grounds of Hever Castle, around the south-eastern side of the lake, TQ 487 452–TQ 486 451, with multiple flowering clumps spread across around a 100 metre area.

Mentha pulegium^R (Pennyroyal) was assessed in Kent Botany 2020 as regards its current county status, but a further record has emerged, a sighting by AH on 19 July of a new site west of Plaxtol, TQ 5993 5368, where one plant was seen in flower growing at the base of a grass bank by a farm lane. Unless a garden escape, this may be from grass seed contamination, but is not readily explicable.

Myosotis secunda^R (Creeping Forget-me-not) is scarce in Kent, largely due to the limited amount of suitable wet peaty habitat, and it is welcome that SL on 31 May was able to locate it in a small open valley fen among the western side of Burnt Bank Wood, part of the Angley Wood complex, TQ 7602 3669 – TQ 7603 3671. This is in the area of Francis Rose's 1955 record from a fen by Tucker's Pond, apparently unrecorded since.

***Myosurus minimus*, 12 May 2021. Photo © David Steere**

Myosurus minimus (Mousetail) has been restored to the Kent flora, after having been unrecorded in West Kent since the 1870s, and in Kent as a whole since 1975. On 9 May it was discovered by JL in quantity near Hoo St. Werburgh. This discovery aroused considerable interest, and visits by various botanists shortly afterwards assessed the population as c.22,500 plants present at the unploughed margins of an arable field southeast of Abbots Court on alluvium at an elevation of about 2m and some 250m from the Medway estuary. Plants were recorded in the field's northwest corner, e.g. at TQ 79547 71989, and then in a broad band 4m wide (some plants extending to 6m out) along the margin northeastwards from TQ 79555 72006 to TQ 79614 72050, but thinning out towards the end; with only occasional plants at the edge for another 30m. Local enquiries indicated that this corner of the field had been subject to flooding in the previous winter such that an adjoining footpath had been cut off, and the farmer had been unable to complete the 2021 ploughing. These circumstances had provided a swathe of land which had evidently been ploughed in late 2020, but had received no cultivation afterwards and germination of potentially competitive species had been inhibited by flooding. The habitat was accordingly especially suitable for Mousetail, as a member of a disparate group described as 'mud-species' (Salisbury, 1970), which act as a pioneer



flora of exposed mud; are local, intermittent and variable in occurrence, intolerant of competition; having small seeds capable of adhesion to the feet and feathers of water-birds; often with near-simultaneous germination. Seed production may be prodigious, and this colony could have produced over 20 million seeds. A fuller account is given in the rare plant register, due to be updated on-line in March 2022.

Oenothera glazioviana (Large-flowered Evening-primrose) with strikingly red sepals was observed by GK on 14 August on waste ground near Snodland, TQ 69392 60213. The species is known to be capable of carrying varying red pigmentation and this appears to be close to the cultivar *Oenothera* 'Summer Sun', a name which unfortunately has been applied to more than one Evening-primrose (*O. macrocarpa* 'Summer Sun' is not this).

***Oenothera glazioviana* cultivar, 14 August 2021. Photo © Geoffrey Kitchener**

Ophrys insectifera^R (Fly Orchid) has long been known at Ranscombe, but the numbers recorded by RM on 28 May in three areas within TQ7067 were unusually high, viz. 136 plants. One of these was an atypical form in which the flowers were partly lacking in anthocyanin pigmentation. This form is sometimes called var. *flavescens* (although that term has also been applied to plants of var. *ochroleuca*, in which such pigmentation is wholly lacking or nearly so). DJ suggests that the reduced pigmentation levels might be regarded as within the natural colour range between 'normal' and the distinctive variety which is var. *ochroleuca*, so that the lower taxonomic rank of forma might be more appropriate. In any event, var. *flavescens* does not seem to be a validly published name.

***Ophrys insectifera* colour form, 28 May 2021. Photo © Richard Moyse**

Parentucellia viscosa^R (Yellow Bartsia), rarely seen in West Kent, was discovered by DS on 1 July south of Shorne Wood Country Park. Two flowering plants were found amongst the usual chalk flora off Brewers Road where it slopes up to bridge over both the High Speed 1 rail line and the A2, TQ 6820 6955. These may have spread from a colony of at least 180 plants which he found on neighbouring railway land at TQ 6820 6955. It is possible that the railway colony derives from sowing when the railway was constructed, whether intended or as a contaminant. The species has also been found associated with the same line near Charing over 30km away.

Pastinaca sativa subsp. *urens* (Eastern Parsnip), first reported as having arrived in Kent in Kent Botany 2018, is continuing its spread, primarily along the central reservations of motorways and main roads. A new colony was seen by GK and SK on 26 August in the centre of the A21 (Lamberhurst bypass) from near the junction with the A262, at TQ 682 372 to the vice county boundary where the River Teise passes under the road, TQ 684 363, with a continuation into vc14, East Sussex (which has no records for this subspecies in the BSBI database) as far as TQ 679 353.

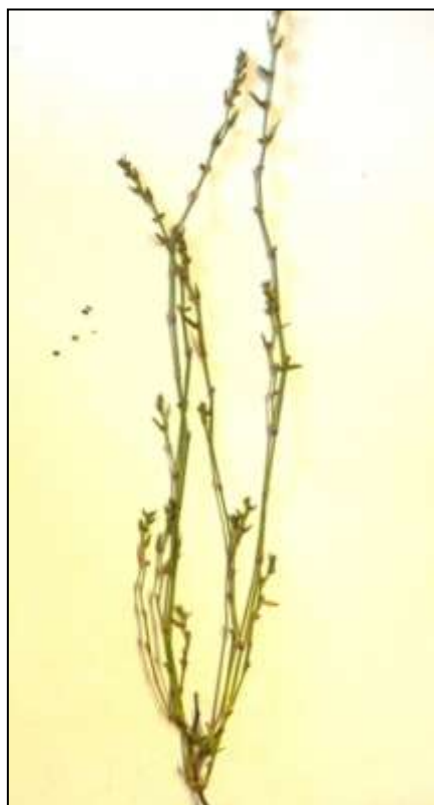
Polygonum agrestinum Jord. ex Boreau (Arable Knotgrass) is given by Stace (2019) as synonymous with *P. aviculare*, a treatment which is by

implication followed by the BSBI *Docks and Knotweeds of Britain and Ireland* handbook (Akeroyd, 2014). So the

mainstream British botanical treatment continues to be conservative in recognising a wide range of variation in *P. aviculare*. However, there are other views, and Sell & Murrell (2018) recognises this variation through a series of microspecies, of which *P. agrestinum* is characterised as being especially erect, with small elliptical leaves, obtuse to subacute at the apex. For Cardiganshire, Chater (2010) found that *P. agrestinum* was actually more widespread than *P. aviculare* (in the strict sense), but thoroughly surveying the microspecies has hardly been undertaken elsewhere in recent times. However, on 13 October, RMB found a few plants of what matched *P. agrestinum* well, at the edge of the road surface of Ladds Way, near Swanley Station, TQ5068. Although we otherwise lack recent Kentish records, Hanbury and Marshall (1899) mention it as at Adisham, Seasalter, near Tonbridge, by Shornmead Fort and very common around Eltham, Erith and Bexley.

***Polygonum agrestinum*, 13 October 2021. Photo © Rodney Burton**

Ranunculus parviflorus^R (Small-flowered Buttercup) is in Kent almost entirely a vc15 plant, reinforced by ground clearance and stationing of excavator equipment on its West Kent site at Cuxton/Strood (TQ7267); it is not known if any plants survive there. However, another population was found by SP and DG on 6 June, just over 500m away on the raised



ground of the former Temple Marsh, from TQ 73095 67910 to TQ 73094 67925, scattered over an area of thin soil with *Glechoma hederacea* (Ground-ivy), which was its principal associate at the previous site in 2012.

Rubus glareosus (Acuminate-leaved Bramble) was last recorded in Kent in 2005, by EGP, but little attention has been given to our brambles since. However, DS recorded it (determined by AP) on 27 June from Cobham Woods, TQ7068, finding it distinctive with its narrow, pale pink petals and long-pointed sepals. A useful site for bramble photographs is Norton (2021).

***Rubus glareosus*, 27 June 2021. Photo © David Steere**

Rumex x lousleyi (the hybrid between Greek and Broad-leaved Docks, named after the botanist Ted Lousley) was noted by GK on 11 May, east of Hoo St. Werburgh, TQ 7907 7214, on a ditch bank, with the parents. The leaves were intermediate in shape and texture, with occasional papillae on the leaf underside midrib inherited from the papillose parent, *R. obtusifolius*.

Rumex x schreberi (the hybrid between Water and Curled Docks) was seen by GK on 7 September, in a typically similar habitat to that of the *R. hydrolapathum* parent, with which it was growing, at the edge of a dyke in estuarial grazing marshes at Higham Common, TQ 70979 74422. Tepals were developing erratically, as is often the case with hybrids, and although undecayed leaves were not present to be examined for cringing, other characters fitted a cross with *R. crispus* better than the alternative, a cross with *Rumex conglomeratus* (Clustered Dock), the only other species present. This is a **first record for vc16, West Kent**.



Salix elaeagnos (Olive Willow) is a cultivated shrub with very narrow leaves, seldom seen outside a planted context. However, a small cut-back plant was noted by GK on 1 November within the boundary of an M25 drainage lagoon near Brasted, TQ 4649 5571, not obviously part of any planting scheme but in an area maintained by strimming. Curiously, there is a 2009 record by MJC on motorway land (M26) at Watery Lane, Kemsing, over 10km eastwards, but the origins of both are enigmatic.

Salix pentandra (Bay Willow) in southern Britain is an introduced species, West Kent records (1954-2011) having been limited to planted Chislehurst trees and their progeny. A further plant was found by GK on 23 September near Northfleet, TQ 6178 7402, a shrub amongst other willows bounding a *Phragmites*-covered waterbody by a footpath adjoining a section of HS1-related railway which was under construction 2003-04. There is no obvious direct evidence of planting, but it would not be surprising if this had taken place in association with the railway works.

Solanum x procurrens (the hybrid between Black and Green Nightshades) was recorded by GK and SK in a potato field east of Hoo St Werburgh, TQ 7996 71850, on 24 August. Both parents were present in abundance and the single hybrid was conspicuous by virtue of its tall stem before branching, with somewhat weak growth. It appeared sterile, with no fruits developing. The crop regime was probably favourable to it, as the parent species, especially *S. physalifolium*, both develop fairly late in the season and the harvesting of maincrop potatoes is compatible with this. The only other Kent record for this cross was near Gravesend, also in a potato field (Kitchener, 1985).

***Solanum x procurrens*, 24 August 2021.
Photo © Geoffrey Kitchener**

Verbascum lychnitis^R (White Mullein) is nationally scarce, but with its national focus on the chalk of north west Kent. While we had seven reports of this species in 2021, all by DS or RMB, the most spectacular was undoubtedly that by DS on 11 July of at least 72 flowering spikes on railway land at Longfield, TQ 5969 6948, with one spike of *Himantoglossum hircinum* (Lizard



Orchid) also present.

Vicia pannonica (Hungarian Vetch) was, in the context of DS's 2019 West Kent finds, described in Kent Botany 2019 as first found in Kent in 1977. This statement, PW has kindly pointed out, needs re-assessment. A KFC field meeting was reported (Wilberforce, 1969) as having started at the garden of Mr and Mrs Codd at St. Margaret's Bay, vc15, moving thence towards Ringwould on the tracks between there and St. Margaret's, in the course of which a *Vicia* sp. was seen, known to have been present since 1954. By the time of the report, it had been identified as *V. pannonica*—Francis Rose's manuscript *Flora of Kent* refers to a determination by Melderis, who then worked at BM. The manuscript *Flora* also contains a number of other records going back to 1912 in West Kent and 1894 in East Kent, made for *Vicia lutea* (Yellow-vetch), which were supposed by Francis Rose to be probably referable to *V. pannonica*.

Viola x scabra, the hybrid between Sweet and Hairy Violets, was found by DS on 8 April (and viewed with GK on 9 April) in scrubbing chalk grassland at Longfield, TQ 59758 69551. It transpired that the *Viola* population here was far from straightforward, with much scattered *Viola hirta* (Hairy Violet), a small amount of *Viola odorata* var. *imberbis* (this is a white-flowered variety) and DS subsequently found *Viola odorata* var. *odorata* (purple-flowered). With these there were plants which could be assigned to the hybrid between *V. hirta* and both varieties of *V. odorata* (Porter & Foley, 2017, did not know of crosses with Sweet Violet colour forms other than var. *odorata*). There was considerable flower colour variation in the overall population ranging from near-white with a blue-violet tinge towards the end of the petals, through to pale violet-blue to darkish violet-blue. Numerous small plants with white-centred pale blue flowers suggested a blue/white flower cross (i.e. involving var. *imberbis*), but the effect of fading in *V. hirta* flowers complicated the position and the most unequivocal hybrids were those plants which exhibited stoloniferous spread (from *V. odorata*) and combined this with other characters not belonging to that species. Bracteoles, stipules and sepal appendages all yield information, but the most useful attribute of the hybrids was the petiole hairs (0.4mm long and appressed in *V. odorata*; 0.6mm long and patent in *V. hirta*; variably intermediate as to length and deflexure in the hybrid). The accompanying illustration shows longish hairs with a degree of deflexure, indicating hybrid intermediacy.

***Viola x scabra*, 9 April 2021, showing (left) stoloniferous patch and (right) petiole hairs. Photos © David Steere**



The hybrid was also found by GK and SK on 28 April at Magpie Bottom, Shoreham, TQ 54671 60832, a large floriferous patch on a chalk grassland slope with *V. hirta* present (*V. odorata* not seen, but well past flowering elsewhere). Petiole hairs were variable in length, to 0.6mm, both patent and deflexed.

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The Kent Mousetail
Pottery by Delia Morgan
Photo © Jane Lawson

